AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A soft-start system for electrical power systems comprising:

a capacitor connected to a first bus of a DC link;

a resistor connected to a second bus of the DC link, wherein the resistor and capacitor are connected in series between the first and second bus;

a switching device connected in parallel

a triggering circuit for measuring a DC voltage on the DC link and activating the switching device to short circuit the resistor .

2. (Original) The soft-start system of claim 1, further comprising:

a rectifier that receives AC power from a source and converts the AC power into DC power in the DC link.

3. (Original) The soft-start system of claim 1, wherein the switching device is an Insulated Gate Bipolar Transistor (IGBT).

4. (Currently Amended) The soft-start system of claim 1, wherein the switching device ~~is~~ includes at least one ~~of~~ of: ~~an electromechanical, device, solid-state device,~~ a Bipolar Junction Transistor (BJT), Field Effect Transformer (FET), Metal Oxide Semiconductor FET (MOSFET), Silicon Controlled Rectifier (SCR), and a switching diode~~,~~ ~~and hybrid device~~.

5. (Original) The soft-start system of claim 1, wherein the capacitor is a capacitor bank.

6. (Currently Amended) The soft-start system of claim ~~1~~ 2, wherein the switching device is co-packaged ~~into~~ with the rectifier.

7. (Currently Amended) The soft-start system of claim 6, wherein ~~rectifier is formed of six IGBTs and wherein~~ the switching device is ~~a seventh IGBT~~ an Insulated Gate Bipolar Transistor (IGBT).

8. (Currently Amended) The soft-start system of claim 7, wherein the switching device is co-packaged with other IGBTs of the rectifier ~~are co-packaged~~ in a single package of the rectifier.

9. (Currently Amended) The soft-start system of claim 7, wherein the ~~IGBTs of the rectifier and the~~ switching device ~~are~~ is co-packaged in ~~a~~ an Intelligent Power Module (IPM).

10. (Currently Amended) The soft-start system of claim 1, wherein the resistor is one of a plurality of resistors in a resistor bank.

11. (Original) The soft-start system of claim 1, wherein the first DC bus and second DC bus are coupled to an inverter.

12. (Original) The soft-start system of claim 1, wherein the triggering circuit is powered from the DC link.

13. (Currently Amended) A method for soft-starting a DC link in an electrical power system, the method comprising:

charging a capacitor connected to a first bus of the DC link,

wherein a resistor is connected to a second bus of the DC link, and

wherein the resistor and capacitor are connected in series;

measuring the charge of the capacitor; and

activating a switching device, ~~wherein the switching device is connected in parallel with the resistor, and wherein the switching device when activated~~ which is configured to short circuits the resistor and conduct a current flowing through the capacitor, when activated.

14. (Original) The method of claim 13, wherein the charge on the capacitor is determined by hysteresis control.

15. (Original) The method of claim 13, wherein the charge on the capacitor is measured by measuring at least one voltage across the resistor, current through the resistor, a voltage between the first and second bus and voltage across the capacitor.

16. (Currently Amended) The method of claim 13, wherein the switching device is an Insulated Gate Bipolar Transistor (IGBT).

17. (Currently Amended) The method of claim 13, wherein the switching device [is] includes at least one ~~of~~ of: a Bipolar Junction Transistor (BJT), a Field Effect Transistor (FET), a Metal Oxide Semiconductor FET (MOSFET), a Silicon Controlled Rectifier (SCR), and a switching diode~~, and a hybrid device~~.

18. (Original) The method of claim 13, wherein the switching device is integrated into a rectifier that converts AC power to DC power and supplies the DC power to the DC link.

19. (Currently Amended) The method of claim 18, wherein [rectifier is formed of six IGBTs and wherein] the switching device is ~~a seventh IGBT, and wherein the~~ an Insulated

Gate Bipolar Transistor (IGBT) co-packaged with IGBTs of the rectifier ~~and the switching device are contained~~ in an Intelligent Power Module (IPM).

20. (Original) The method of claim 13, wherein a triggering circuit measures the DC voltage on the DC link and activates the switching device to short circuit the resistor, and wherein the triggering circuit is powered from the DC link.

21. (New) A soft-start circuit for an electrical power system that utilizes first and second buses of a DC link to charge a capacitor bank including one or more capacitors, comprising:

a resistor connected in series with a capacitor bank;

a switching device connected in parallel with said resistor; and

a triggering device configured to activate the switching device in response to a DC voltage applied to the DC link,

wherein the switching device is configured not to carry the full current load of the DC link after activation.

22. (New) The soft-start circuit of claim 21, wherein the switching device is configured to conduct the current flowing through the capacitor bank in response to being activated.

23. (New) The soft-start circuit of claim 21, wherein

the resistor and capacitor bank are connected in series between the first and second buses.

24. (New) The soft-start circuit of claim 21, wherein

the switching device is configured to short out the resistor in response to being activated, thereby causing the switching device to be operably connected in series with the capacitor bank.

25. (New) The soft-start circuit of claim 21, wherein the switching device is configured so that it does not share a high voltage potential as the DC link.

26. (New) The soft-start circuit of claim 21, wherein

the triggering device is configured to activate the switching device in response to the DC voltage exceeding a first level, and

the triggering device is configured to deactivate the switching device in response to the DC voltage decreasing below a second level, the first level being higher than the second level.

27. (New) The soft-start circuit of claim 21, wherein the switching device includes at least one of a Bipolar Junction Transistor (BJT), Field Effect Transformer (EFT), Silicon Controlled Rectifier (SCR).

28. (New) The soft-start circuit of claim 21, wherein the switching device comprises an Insulated Gate Bipolar Transistor (IGBT).

29. (New) The soft-start circuit of claim 26, wherein the switching device is co-packaged with one or more other IGBTs in an Intelligent Power Module (IPM).

30. (New) The method of claim 13, wherein the resistor and capacitor are connected in series between the first and second buses of the DC link.

31. (New) The method of claim 13, wherein the switching device is connected in parallel with the resistor.